

## ABSTRACT

Consistent with the present invention, a tunable laser emits a monitoring signal which is combined with the WDM channels typically at the transmit side of a WDM system. At each monitoring point along the WDM system, the WDM channels are  
5 filtered out, the monitoring signal is sensed, and desired systems parameters (e.g., gain flatness, dispersion, PMD and OSNR) are measured. Accordingly, a single tunable element, i.e., the tunable laser, can be provided, thereby reducing costs. Moreover, system performance can be ascertained regardless of whether WDM channels are present.